

U.S. Patent Application Serial No. 09/814,099
Response dated January 16, 2004
Reply to OA of October 27, 2003

REMARKS

Claims 1 and 11 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicant regards as his invention. The applicant respectfully submits that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated October 27, 2003.

Claims 1 - 3 and 11 - 13 are presently being examined, claims 4 - 10 having been withdrawn in a Response to the Restriction Requirement filed April 10, 2002.

Claims 2, 3, 12 and 13 have been indicated as allowable to which the applicant respectfully acknowledges with appreciation.

Also, the applicant thanks the Examiner for withdrawing the objections to the applicant's specification, claim 11 and drawings, as previously set forth in the first Office Action.

As to the merits of this case, claims 1 and 11 are rejected under 35 USC §103(a) based on Kinugawa (U.S. Patent No. 5,999,872). The applicant respectfully requests reconsideration of this rejection.

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Regarding claim 1, the Examiner's position can be specifically found on page 2, item 2, line 3 through last line, page 3 of the outstanding Action.

Regarding a "load judging portion" for detecting whether or not the vehicle is under excavation, Kinugawa does not disclose such structural arrangement. The Examiner alleges that a load judging portion for determining whether or not the vehicle is under excavation is disclosed at col. 14, lines 34-37, and col. 30, lines 44-51. However, at col. 14, lines 34-37, the "classification of work" is discussed, and at col. 30, lines 44-51, the description of "digging works" is found.

Also, in a "Response to Arguments" portion of the Office Action on page 5, the Examiner alleges that in col. 24, lines 34-42 of Kinugawa, a means is disclosed for judging whether or not the vehicle is "under excavation". The applicant respectfully submits, however, that the disclosure at col. 24, lines 34-42 is concerned with the "classifications of work" as the described "grasping sections" (43-50) are shown under the heading of "classification of work" (41) of Fig. 2A.

In summary, as discussed above, Kinugawa lacks the teaching of the claimed "excavating state detecting means."

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Regarding claim 11, the Examiner alleges that in addition to the discussion in reference to claim 1, above, Kinugawa teaches an operating amount change judging portion for judging that the boom lever operating amount changes to a zero amount (the neutral position) from a predetermined operating amount (col. 35, lines 21-34).

The applicant respectfully submits that Kinugawa does not however disclose an “automatic excavation control means” for outputting the automatic excavation command values based on an operating amount change judging portion of a boom lever.

Accordingly, with respect to claim 11, Kinugawa does not teach the applicant’s claimed means for detecting whether or not the vehicle is under excavation, and the claimed “automatic excavation control means” for outputting the automatic excavation command values based on an operating amount change judging portion of a boom lever.

The applicant further respectfully submits that Kinugawa discloses at column 24, lines 34-42, a hydraulic excavator classification of works as each of “Grasping Sections 43-50” shown under “Classification of Work Discriminating Section 41”, and at column 30, lines 45-58, judges that “Digging Works other than Digging with Swing” are carried out if the total value (ch6+ch7) of the boom and arm operating amount average values is relatively large as shown in Step 8 of Figure 14.

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The "Classification of Work discriminating Section 41" is not a loading judging portion for judging whether the vehicle is under the excavation as asserted by the Examiner, but the Section recognizing the classification of works is carried out by the hydraulic excavator.

Kinugawa merely teaches a control apparatus for the hydraulic excavator which carries out specific operations according to various kinds of the classification of works.

Thus, Kinugawa neither discloses or suggests the structural arrangement of claim 1, i.e., excavating state detecting means, a load judging portion judging on the basis of a detecting amount input from the excavating state detecting means whether or not the vehicle is under excavation, and automatic excavation control means setting and outputting an automatic excavation command value on the basis of the judgment of the load judging portion, wherein the automatic excavation control means starts the automatic excavation control when the load judging portion judges that the vehicle is under excavation.

Moreover, Kinugawa discloses at column 35, lines 18-34, "Auto Acceleration Control Section 56" for controlling the engine speed to a low speed. As specifically set forth in such portion of the Kinugawa patent:

in the crane work and the loading work, all the operating levers are often operated in the neutral position * * * during the work. However, in these works, since the auto acceleration control is invalid, it is possible to avoid the situation that the engine speed is controlled to

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a low speed a * * * against the intention of an operator. In work other than those mentioned above, since the auto acceleration control is effective, if an operator returns all the operating levers 17-22 to their neutral position and stops the work, the engine speed is soon controlled to a low speed, * * * [thereby the engine fuel cost is improved].

Emphasis added.

The "Auto Acceleration Control Section 56" is not such an operating amount change judging portion as asserted by the Examiner, but is the Section for making effective or invalid the control for controlling the engine speed to a low speed when the work stops.

Thus, Kinugawa neither discloses or suggests the structural arrangements now set forth in claim 11; i.e., an excavating state detecting means, a load judging portion judging on the basis of a detecting amount input from the excavating state detecting means whether or not the vehicle is under excavation, an operating amount change judging portion judging that the boom lever operating amount changed from a predetermined operating amount to a zero amount, and automatic excavation control means setting and outputting an automatic excavation command value on the basis of the judgment of the load judging portion and the operating amount change judging portion, wherein the automatic excavation control means starts an automatic excavation control when the load judging portion judges that the vehicle is under excavation and the operating amount change judging portion judges that the boom lever operating amount (not all the operating levers) changes from a predetermined operating amount to a zero amount so as to securely judge a timing of an automatic

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excavation control start.

In order to distinguish the applicant's claimed invention over the cited prior art, as discussed above, the applicant has amended claims 1 and 11, as filed herewith. Support for such claimed structural arrangements, as now set forth in the amended claims can be found on page 32, lines 9-16; page 41, lines 17-24; page 42, lines 12-26; and page 43, lines 4-10 of the applicant's specification.

Accordingly, the applicant respectfully submit that a person of ordinary skill in the art would not have found the applicant's claimed invention, as now recited in each of claims 1 and 11, as amended herein, obvious under 35 USC §103(a) based on Kinugawa. Thus, the withdrawal of the outstanding obviousness rejection under 35 USC §103(a) based on Kinugawa (U.S. Patent No. 5,999,872) is in order, and is therefore respectfully solicited.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

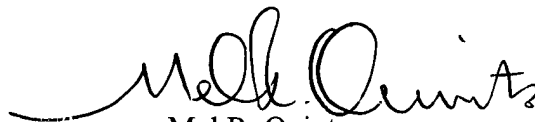
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, the applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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